Lesson 3: Comparison of Snow Cover on Different Continents (11)
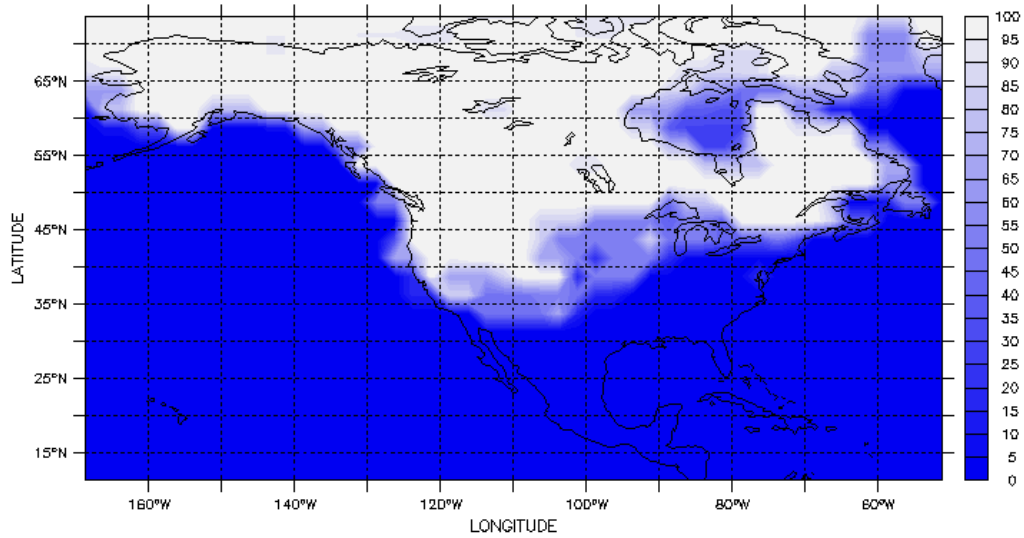
LAS 7.+/Ferret 6.1   NOAA/PMEL

TIME : 16−DEC−1998 00:00

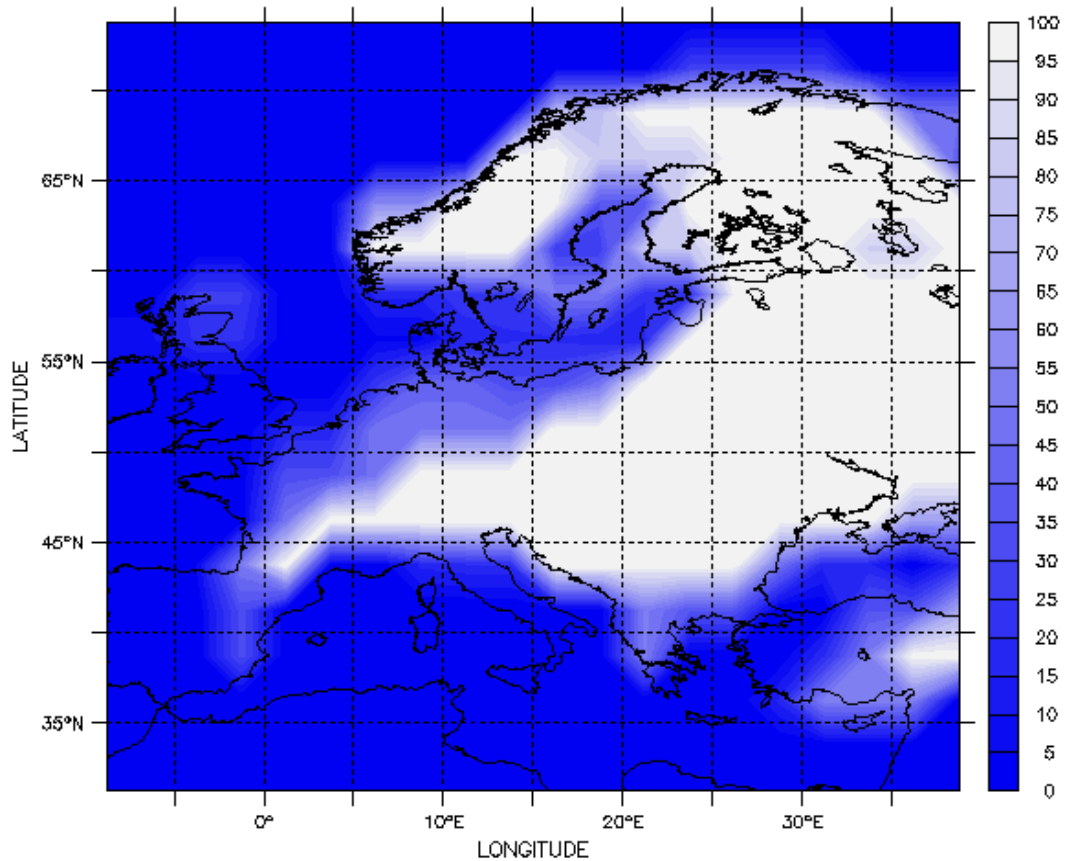DATA SET: /usr/local/fer_data/data/ISCCPMonthly_avg.nc

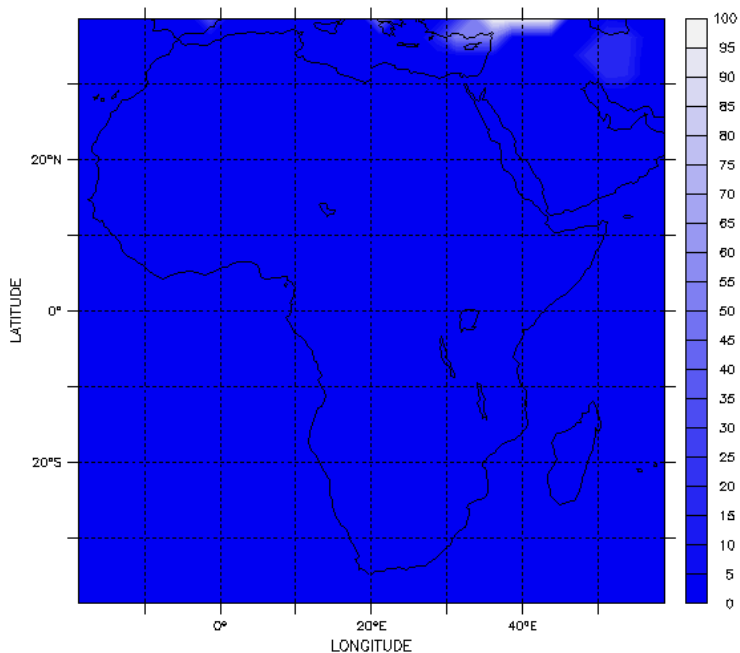Monthly Snow/Ice Amount (ISCCP) (%)

LAS 7.+/Ferret 6.1   NOAA/PMEL

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Monthly Snow/Ice Amount (ISCCP) (%)

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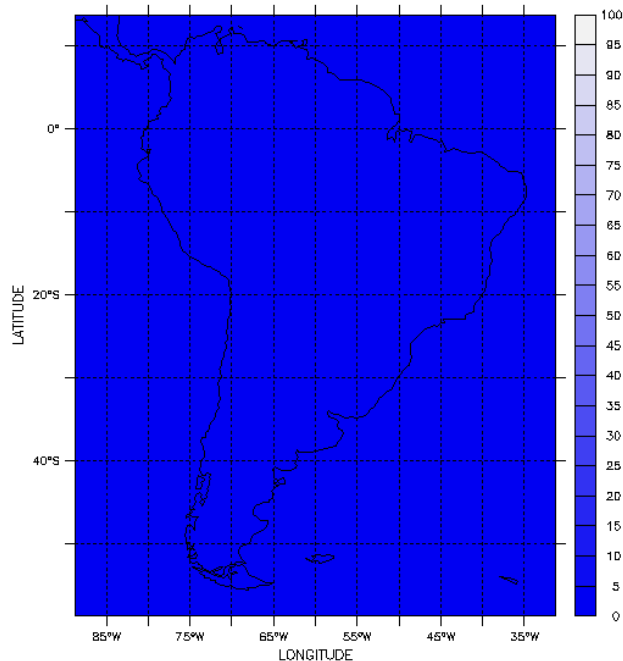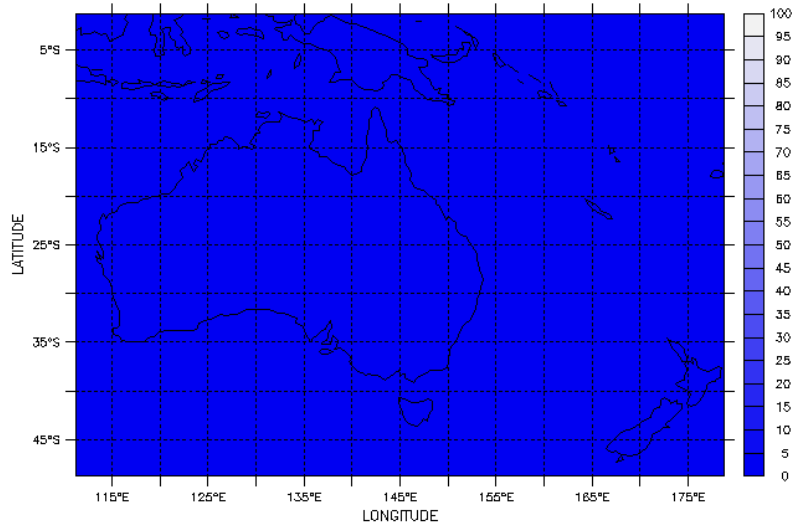Monthly Snow/Ice Amount (ISCCP) (%)

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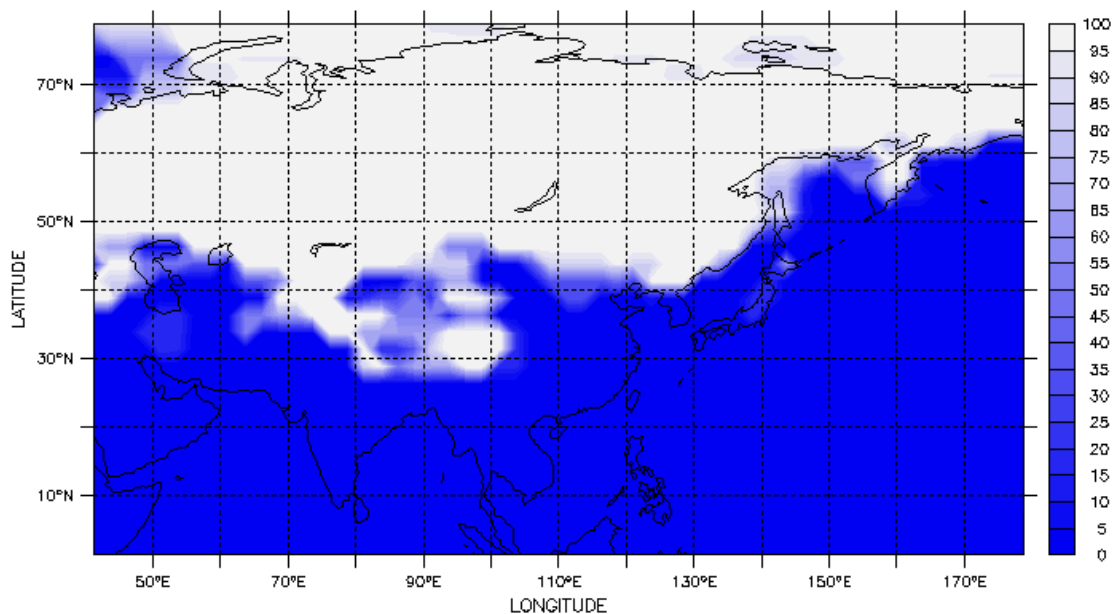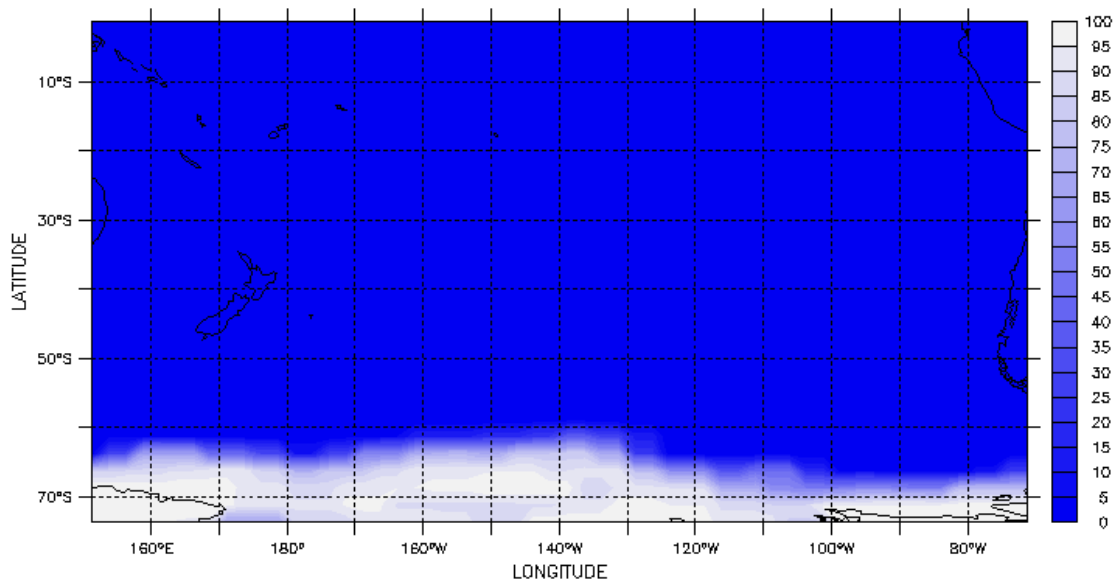
Monthly Snow/Ice Amount (ISCCP) (%)

TIME : 16−DEC−1998 00:00

DATA SET: /usr/local/fer_data/data/ISCCPMonthly_avg.nc

Monthly Snow/Ice Amount (ISCCP) (%)

Questions:

1. What can you conclude about the snow cover on each continent?
        Students should use the data from both the text file and the visual data gathered from the graph and should be able to conclude how much of the country is covered in snow. It should be clear that continents such as South America, Africa, and Australia have little or no snow but that continents like North America, Europe, and Asia are covered with much more snow. No continent seems to be covered with more that 75% of snow.

2. What relationships do you see between the maps you have created and the text data?
        The maps should reflect the same data given in the text form. Students should be able to look at the text data and see the similarities between that and the picture formed from that data in the plot made through LAS.

3. What are some things that could affect the snow cover amounts from year to year?
        The level of precipitation affects the snow cover amounts from year to year. If there is a particularly dry winter there will be less snow cover in that area. The temperature will also affect Snow cover; if it is a particularly warm year there will be less snow cover. Students can check weather data to see if there were large winter storms that might affect snow cover on a certain continent as well.

Extensions:
1. Students may pick out a specific latitude and longitude for a location in the world and create charts or maps for that location.

2. Students may explore other ways of representing snow cover data using the Live Access Server. For example, one area over a certain span of time.
        Students can explore using LAS, perhaps looking at precipitation, cloud cover, and temperature data and use that to draw conclusions on snowfall. They can also use the snowfall data and compare different plots of time to see how it has changed over the years. If there is a significant change in a particular area, students should look into what might have caused that change.

3. Students may create maps for other months in order to see the difference in snow cover.

4. For students learning Excel or other spreadsheet technology, an Excel file is available in the Lesson Links which contains both snow cover and land mask data. With the land information included, students may calculate the actual percentage of snow cover over a continent of interest.